A2X90-VM

Operating Instructions
for
4…20 mA loop powered 96x48 indicator;

Model: A2X90-VM

A2X90-VM

1. Contents

1. Contents 2
2. Note 3
3. Instrument Inspection..... 3
4. Regulation Use 3
5. Operating Principle 4
6. Mechanical Data ……..... 4
7. Electrical Connection 5
8. Commissioning 7
9. Technical Information..... 9
10. Order Codes 11
11. Dimensions 10

2. Note

Please read these operating instructions before unpacking and putting the unit into operation. Follow the instructions precisely as described herein.
The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the measuring unit should be used only when the machines fulfil the EWG-machine guidelines.

3. Instrument Inspection

Instruments are inspected before shipping and sent out in perfect condition.
Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

Scope of delivery:
The standard delivery includes:

- user's manual (this sheet)
- warnings
- 96x48 display model: A2X90-VM
- two fixing clamps
- removable 12 pole terminal blocks (into the unit)

4. Regulation Use

Any use of the 4…20 mA indicator model: A2X90-VM, which exceeds the manufacturer's specification may invalidate its warranty. Therefore any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

5. Operating Principle

The model A2X90-VM 96x48 loop powered display is a universal local display suitable for use with various transmitters. The transmitter must be fitted with an analogue output and a terminal blocks.
The display is user programmable. Scaling, the position of the decimal point, gate time and switch point may be set with two keys. The menu steps are output to the LED display field.

6. Mechanical Data

The instrument is setted up for panel mounting.
It is fixed in place with the two clamps provided.
The maximum permitted panel thickness is 4mm.
Make all electrical connections with power supply off.
Take care to ensure electrical connections are correct.

Insert the clamps into the button-holes in the right and left sides of the instrument and put them in tension turning the pin with a screw -driver (slot or cross, 4 mm).
Make all electrical connections are correct as showed in the schemas below.

7. Electrical Connection

Connect the plug-on display as shown in the wiring diagram.

Connector assignment

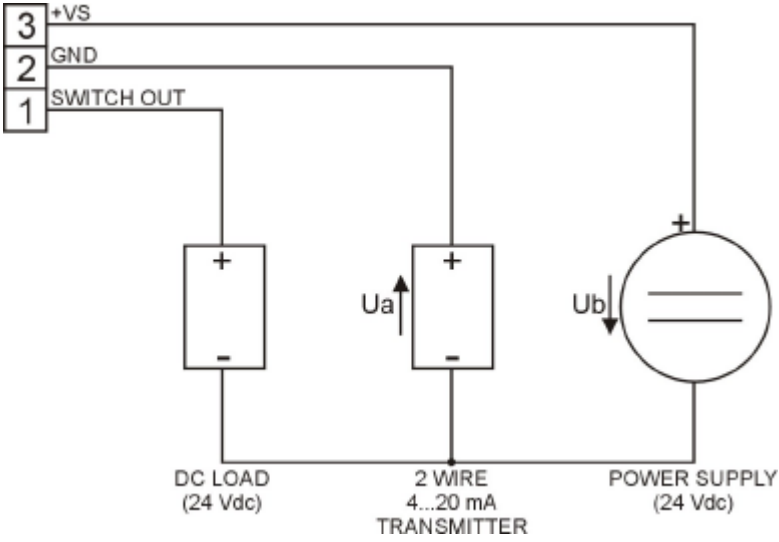
PIN 1	Switch out
PIN 2	GND
PIN 3	+VS
PIN 4	/
PIN 5	/
PIN 6	/
PIN 7	/
PIN 8	/
PIN 9	/
PIN 10	/
PIN 11	/
PIN 12	/

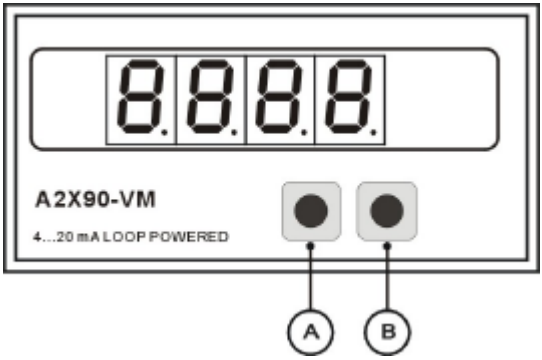
Auxiliary power
The auxiliary power (typically 24 VDC) must be greater than the voltage drop across the sensor, the voltage drop across the display (5 V) and any other voltage losses (additional evaluation, cable losses).

Ub = Us + Ua + 5V (Us = other voltage losses)

Switching output
The operating voltage Ub at PIN 1 is connected through via a PNP-transistor when reaching the switching threshold. The max. current load constitutes 60 mA.

Connection example A2X90-VM





8. Commissioning

8.1 Adjusting the Display

A ➔ Downward and selection of menu items
B ➔ Upward and selection menu items
A+B ➔ Enter menu selection for adjustment or to exit acknowledge setting

8.2 Decimal Point

Press key B until: | d | P | | | is displayed.

Press **A+B** to enter adjustment menu: | - | - | -. | - |

Press **B** or **A** for up and down: | - | -. | - | - |

Press **A+B** to acknowledge setting and return to menu item “dP”

8.3 Zero-Point (value to be displayed for 4 mA)

Press key **B** until: | I | S | | | is displayed.

Press **A+B** to enter adjustment menu: | | 0. | 0 | 0 | for example: (0 bar)

Press **B** or **A** for up and down

Press **A+B** to acknowledge setting and return to menu item “IS”

8.4 Span (value to be displayed for 20 mA)

Press key **B** until: | F | S | | | is displayed.

Press **A+B** to enter adjustment menu: | | 0. | 0 | 0 |

Press **B or A** for up and down: | 6 | 0. | 0 | 0 | (for example: 60 bar)

Press **A+B** to acknowledge setting and return to menu item “FS”

8.5 Damping

Press key **B** until: | I | n | t | | is displayed.

Press **A+B** to enter adjustment menu: | | | 0. | 3 |
(min. = 0.3 s; max. = 20.0 s)

Press **B** or **A** for up and down: | | | 1. | 5 | (for example: 1,5 sec)

Press **A+B** to acknowledge setting and return to menu item “Int”

8.6 Range Exceeded
(indication of less than 4 mA or greater than 20 mA)

Indicates “HI” if the upper limit or “LO” if the lower limit is exceeded

Press key **B** until: | I | S | F | S | is displayed.

Press **A+B** to enter adjustment menu: | | O | F | F | message disabled

Press **B** or **A** for up and down: | | | o | n | message enabled

Press **A+B** to acknowledge setting and return to menu item “ISFS”

Indication: “HI” = Upper range exceeded, “LO” = Lower range exceeded

Attention: When the "HILO" indication is enabled, error code "HI" or "LO" is displayed if the scale range (-1999 (LO) to +9999 (HI)) is exceeded.

8.7 Switching Point

Press key **B** until: | S | E | t | | is displayed.

Press **A+B** to enter adjustment menu: | | 0. | 0 | 0 |

Press **B** or **A** for up and down | 2 | 0. | 0 | 0 | (20 bar)

Press **A+B** to acknowledge setting and return to menu item "SEt"

Attention: The standard hysteresis is the adjusted switching point minus 3 digits (first digit resp. first position right). On customer's request the hysteresis can be factory-set.

8.8 Switching direction

Press key **B** until: | A | L | L | | is displayed.

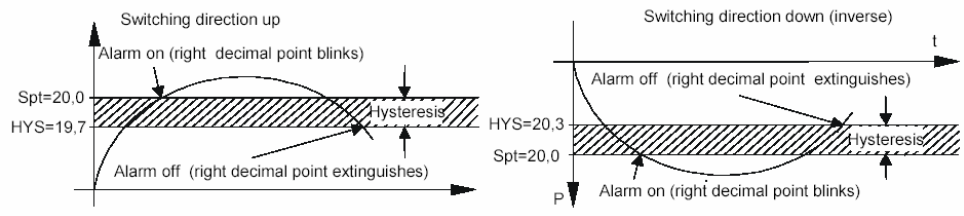
Press **A+B** to enter adjustment menu: | H | I | | | (hysteresis via switching point, inverse)

Press **B** or **A** for up and down | L | O | | | (hysteresis below switching point)

Press **A+B** to acknowledge setting and return to menu item "ALL"

8.9 Return to Measuring Mode

Depending on the selected menu point, press key **A** or **B** from one to eight times.



A2X90-VM

Display:	4-digit red LED display,
Digit height:	12,5 mm
	Programmable decimal point setting
Indicating range:	-1999 to +9999
Accuracy:	0.2% of span ± 1 digit
Electrical connection:	To 2-wire transmitters with 4–20 mA output
	12 pole terminal blocks
Sensor supply:	not required, self -supply loop powered
Voltage drop:	= 5 V (acc. load: max. 250)
Max. current load:	max. 60 mA
Conversion rate:	Three measurements/s,
Gate time:	0.3-20 s (adjustable)
Data back-up:	Non-volatile FLASH MEMORY
Error message:	HI: overrange
	LO: underflow
Programming:	With two keys, menu-assisted, scaling of indication, decimal point, gate time, error message switch point
Protection:	IP 54
Temperature influence on display:	0.1% / 10 °C
Storage temperature:	-30...+80 °C
Ambient temperature:	0...+60 °C
Case:	panel mount 96 x 48 mm
Housing material:	Noryl
Cut-out dimensions:	92 x 45 mm
Depth:	90 mm (terminal blocks included)
Weight:	140 g
Switching output	
Open Collector:	PNP, max. current load 90 mA
Conformity to EWG guidelines:	
EMC	Directive CEE 2004/108
	EN 61000-6-4
	EN 61000-6-2
LVD	Directive: CEE 2006/95
	EN61010-1

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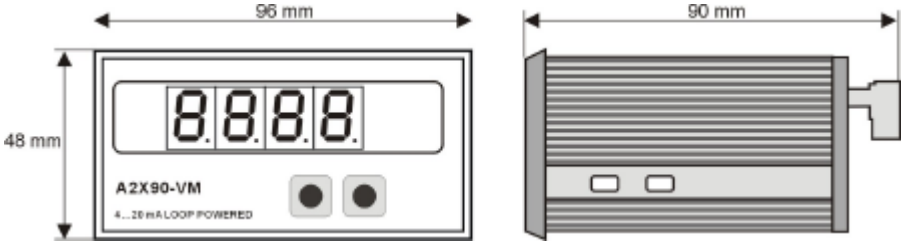
10. Order Code

A2X90-VM loop powered 4…20 mA 96x48 indicator

11. Dimensions



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